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A LITERATURE REVIEW ON CONTRACEPTIVE PRACTICES, BARRIERS AND MEASURES TO IMPROVE USE AMONG POSTPARTUM WOMEN

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ABSTRACT: Introduction: *Globally, the challenges of maternal mortality and morbidity from untimely pregnancy and unspaced births are enormous. An increase in contraceptive use can promote women's health, thereby decreasing adverse maternal and child outcomes in Africa. This literature search reviewed the barriers encountered by mothers to contraceptives and measures that improve increased use among postpartum mothers.* **Design:** *The review comprises quantitative studies conducted among women and postpartum mothers in Africa. The search was conducted in PubMed, ProQuest and Google Scholar using contraceptives, practice/use/utilisation, barriers/limitations, measures, family planning practice, postpartum mothers, women, expectations, and contraception perception barriers or factors. The health belief model gave insight into the perception of women to contraceptive use. The search produced 18 African studies published in English between 2015-2019 among reproductive-aged women 15-49. Contraceptive use ranged from 11% to 86.8%. The perception of women regarding their fertility desires creates an imbalance in contraceptive use. Factors that affected use include knowledge, age, the commencement of sexual activity and resumption of menstruation after delivery, and the culture and religion of the women. The women contend with barriers such as fear of side-effects, knowledge barriers and misconceptions, lack of spousal support, decision-making power, and health system-related barriers.* **Conclusion:** *Creating method-specific education to meet the women's personal information and education needs is one of the strategies identified and improved health system measures to increase use in the immediate postpartum period. Therefore, ensuring access, affordability, availability, and access will bring the desired behavioural change.*

KEYWORDS: Contraceptives, Family Planning Practice, Postpartum Mothers, Barrier, Measures for Improvement

INTRODUCTION

Ill-timed and unspaced pregnancies and complications related to delivery contribute 73% of maternal deaths. The world witnessed a 2.9% reduction in maternal mortality rate (MMR) from 2000-2017, signifying 54.6% short of the required annual reduction (6.4%) in MMR to reach the SDG of 70 maternal deaths per 100,000 live births. The estimates (2000-2017) show that 1 in 45 women die in low-income countries due to pregnancy-related complications

(WHO 2019). The use of contraceptives can invariably reduce unintended, unplanned pregnancies, births, and abortions (Chola et al., 2015).

Reports from the United Nations (2015) shows that contraceptive use has increased globally as 64% of almost all married women in the regions of the world use a method, compared with Africa, which has 33% and Nigeria at less than 20% practice rate (Radoloff and Tsui 2019). Following the 2012 London family planning summit, many countries have made efforts to remove contraceptive use barriers, increasing to 1·92 percentage points from the expected 1.4 % (Ahmed et al. 2019).

Although the effort to increase the number of users is yielding results, more action is needed. Statistics show that close to three-quarters of women needing contraceptives by 2030 will be found in low-and-middle-income countries. There are 270 million women of reproductive age worldwide who do not want to get pregnant yet do not employ any modern contraceptive method. Twenty-two million and twenty million of these women reside in Western and Eastern Africa (Kantorová et al. 2020). Therefore, achieving the gains of the Sustainable development goal (SDG) 3.1 and 3.7 of reducing maternal mortality and increasing proportion of women with satisfied contraceptive need plus increased access to reproductive health service might be elusive with non-use of contraceptives (UNFPA 2018; WHO 2018).

Postpartum women face barriers to uptake of family planning methods. These barriers that could restrict access to modern contraceptives and use of maternal and child healthcare service include misconceptions, culture and religious practice plus weak health systems in Sub-Saharan Africa (Tsui et al. 2017). A desire for more children appears to top the reasons for non-use of postpartum contraceptives (Mohammed-Durosinloorun et al. 2017). Fertility desires of women determine their contraceptive behaviours, suggesting increased use might be associated with high parity.

Meanwhile, having no intention to have more children without the use of any method leads to high risk of unplanned pregnancy, abortion and infant mortality (OlaOlorun et al. 2016; Jalang' o, et al. 2017). Despite that the reasons given for non-use of protection appear unprofound, an increase in uptake of postpartum contraceptives can promote the health of women, thereby decreasing adverse maternal and child outcomes (Dev et al. 2019; Durowade et al. 2017). Consequently, this literature search seeks to review research articles on practices, barriers and measures to overcome contraceptive practice barriers among women. To determine common hurdles to contraceptive use among postpartum mothers Africa and measures that can improve its use.

Conceptual Framework

The conceptual framework for this study is the health belief model developed in the 1950s by the social psychologist (Hochbaum, Leventhal, Kegeles, and Rosenstock) with amendment and addition of self-efficacy 1988 (Rosenstock, 1974). It seeks to explain people's behaviour to programs targeted to prevent disease and other health-related events (Rahmati-Najarkolaei et al. 2016). The construct highlights the individual-level factors, community and societal influence, of which the application can help to focus on practical solutions (Kahsay et al., 2018).

The model constructs are especially useful for self-regulation and social support to modify practice, health promotion and disease prevention. Perception of susceptibility to risk,

barriers prevent the adoption of practices that promotes health and enjoyment of its benefits (Rakhshanderou et al. 2017). The health belief model can understand the beliefs regarding contraceptives and how they act as barriers to uptake, which serve as a clue/cue to measures to improve use (Mohsen et al. 2016).

The first concept of the construct, perceived susceptibility, describes belief in the likelihood of been affected by a condition. In this case, postpartum women might not perceive the risk of pregnancy and related complications, thus reduced modern contraceptive prevalence. Next is perceived severity; the awareness of the severity of the impact of unplanned, unspaced pregnancy, risk of abortion and sepsis, maternal mortality, short-interpregnancy interval, preterm delivery, increased infant mortality rate. The third is the Perceived barriers: is the impediments or negative factors that prevent a health-benefiting action. Impediments/pull factors to contraceptive use include inadequate knowledge, lack of support from husband and significant others and health systems. The fourth is the perceived benefits. How aware are women of the benefits associated with positive contraceptive behaviour change? Women benefit by being healthy, have healthy babies and families, they are better able to contribute to the family and nation, the nation benefits as the demographics become manageable with better provision for the citizens.

Cue to action is the last adopted concept. These are those actions that can set-up or push factor for the desired action, which are internal and external (personal, educational family and healthcare measures)

Adopted Health belief model (1950)

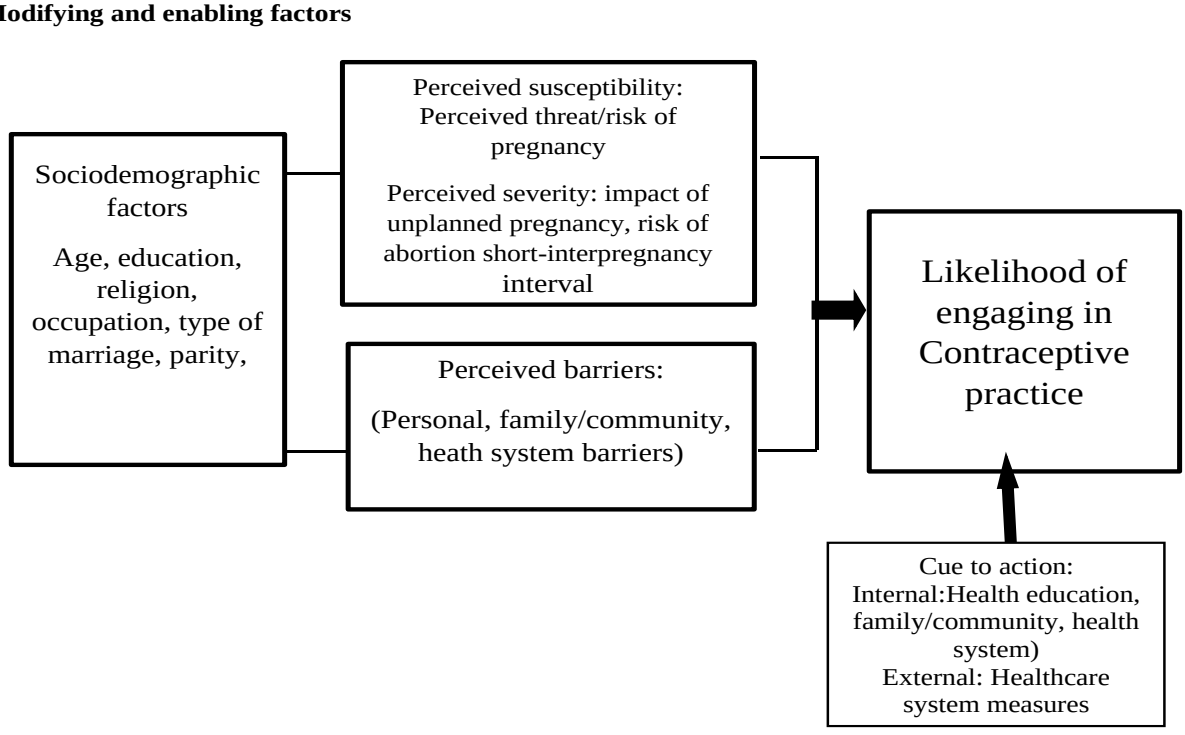

Figure. 1: Adaptation of the Health Belief Model to contraceptive practice

Methods/Approaches

This study's design approach was quantitative, and retrospective as a search of previous related literature was searched from various documented sources, analysed and discussed to draw inferences. The search produced 84 full-text articles, when screened, it produced 18 quantitative studies; 14 quantitative, three mixed-method and one randomised controlled experimental trial conducted between 2015 and 2019. Five (5) of the studies were carried out in Nigeria, three (3) in Ghana, Kenya two (2), five (5) in Ethiopia and one each from Sudan, Liberia, and Egypt. The sampling method was varied; eight of the studies selected their subjects by simple random sampling, four applied multistage sampling, and three used the systematic method, while two chose respondents by cluster method and purposive sampling methods. All the studies applied the probability sampling technique except for one (Ayanore *et al.* 2017). The analysis process ranged from Regression (8), Pearson's correlation (1), Chi-square (5) and Descriptive statistics (5).

The sample size was diverse, ranging from 100-720 participants. The studies were conducted among reproductive-aged women 15-49 years while seven were specifically among postpartum women (Coomson and Manu 2019; McConnell et al. 2018; Berta et al. 2018; Demie et al. 2018; Kador et al. 2018; Jalang' o et al. 201;7 Dona et al. 2018). One study reported views of men and health workers in addition to women (Ayanore et al. 2017). Concerning setting, twelve studies were facility-based and six community-based. Table 1 presents a summary of the studies. A search conducted in PubMed, ProQuest and Google Scholar produced articles for the review. Keywords used are contraceptives, practice/use/utilisation, barriers/limitations, measures, family planning practice, postpartum mothers, women, expectations and perception of contraception barriers or factors. Boolean connectors and or were applied to connect the words.

This reviewed literature were selected based on the following criteria: full text, peer-reviewed articles published in English language, descriptive cross-sectional, experimental studies. All studies were quantitative studies published between 2015 and 2019. The review presents contraceptive use barriers yet to be surmounted five years into achieving goal 3 of the sustainable development goal of good health and wellbeing, especially for women. This report emphasises on African studies from the period to highlight areas for intervention that could increase contraceptive use in the region, thereby maximising the efforts to reduce maternal mortality.

Contraceptive Practice

Nine of the reviewed studies reported current contraceptives use, ranging from 11% in Liberia to 86.8% in Kenya. (Berta et al. 2018; Mohammed-Durosinlorun et al. 2016; Esike eta al 2017; Jalang' o et al. 2017; Durowade et al. 2017; Kador et al. 2018; Tebeje and Workneh 2017; Nigatu and Segni 2016; Coomson and Manu 2019). However, Yidana and Sharif (2018) reported a history of previous use among 43.4% of women. The variation in the percentage of users across regions is synonymous with variation in practice consistency; maximum benefit may result from a consistent practice.

About methods commonly used, injectables, condom, natural method, oral contraceptives, and IUCD are relatively common. It is noteworthy that three studies in Nigeria mentioned natural methods, condom, withdrawal methods, emergency contraceptive pills as exclusive of

their subjects (Mohammed and Bhola 2019; Esike et al., 2017; Durowade et al. 2017). Where women prefer such methods signifies their affiliation to culture and recourse to a spouse to use contraceptives or not.

Moreover, most authors reported respondents had below four children except for mean parity of seven and highest of 15 in Nigeria (Mohammed-Durosinlorun et al. 2016). High parity is synonymous with high maternal mortality and inconsistency in applying the methods, which is a function of how postpartum mothers perceive the idea. Women's perception regarding their fertility desires creates an imbalance in contraceptive use; women who have attained their aspiration tend to be compliant/consistent with practice. While those who want to keep the option of future childbearing open avoid or use less reliable methods with many subjects preferring short-acting hormonal, condoms and natural means (Kador et al. 2018).

Factors Affecting Contraceptive Practice

Knowledge or awareness about a practice associated with an individual's educational status can create a subtle difference in implementing such practice. Analysis of 10 out of the eighteen of the studies reviewed a relationship level of education of the subjects, information/ awareness and contraceptive usage Kador et al. 2018; Coomson and Manu 2019; Durowade et al. 2017; Jalang' o et al. 2017, Onifade et al. 2017; Mohammed-Durosinlorun et al. 2016; Tebeje and Workneh 2017; Berta et al. 2018; Elsayda et al. 2018; Ayanore et al. 2017). Low level of contraceptive use might result from inadequate knowledge of its benefits. Adequate knowledge in a field arms the woman with decision-making power and the ability to make timely decisions, burst myths and not give room to a misconception regarding contraception Because a delay in that could fail to prevent pregnancy (Yidana and Sharif 2018; Nigatu and Segni (2016).

The appropriate contraceptive practice is a reflection knowledge of not only the user but also of the provider. Efficient delivery of contraceptive education by a knowledgeable provider is a factor that determines the usage of contraceptives among Ethiopian, Kenyan and Nigerian women. Targeting those with low education as well as the highly educated with personalised counselling can improve contraceptive use (Dona et al. 2018; Jalang' o et al. 2017; Mohammed-Durosinlorun et al. 2016).

Another factor that showed significant association across seven of the articles is the age of the respondents which ranged from 20-39 years, type of marriage and partner support. Contraceptive use is high among this group. While fertility may be highest amongst this group, it does not preclude pregnancy from women in the extremes of age. (Coomson and Manu 2019; Tebeje and Workneh 2017; Nigatu and Segni; 2016; Ayanore et al. 2017; Mohammed-Durosinlorun et al. 2016, Jalang' o et al. 2017; Durowade et al. 2017) Some reports revealed increased pregnancy desires among women with a mean parity of seven and the method of the subject used based on partner support and the increased desire for children.

Reports of Berta et al. (2018), Dona et al. (2018), Coomson and Manu (2019), and Demie et al. (2018) indicate that many women relate contraceptive use with the commencement of sexual activity and resumption of menstruation after delivery. More women are commencing sexual activity early without taking necessary precautions. This period of initiating contraception is also a function of how mothers comprehend contraceptive information, this

calls for a revisit on the regular postpartum visit or integration of contraceptive education for wider reach (Demie et al., 2018).

Furthermore, one study from Sudan and four from Nigeria point religion and culture as significantly related to contraceptive use (Abdalla and Ahmmed 2017; Onifade et al. 2017; Mohammed-Durosinlorun et al. 2016; Esike eta al 2017; Durowade et al. 2017) Closely related is the cost of contraceptives, employment status and empowerment of the women (Jalang' o et al. 2017; McConnell et al. 2018)

Barriers to Practice

There are several possible barriers to the practice or use of contraceptives among postpartum mothers.

Fear of Side-Effects: The commonest barrier to contraceptive practice described in the literature is the fear of side-effects. Many studies reported that the experience or fear of unpleasant physiologic and social effects limits contraception initiation. Others prefer to become pregnant from experiencing adverse effects. Some of the side-effects mentioned by participants include weight changes, delayed return to fertility, excessive bleeding, and lack of sexual desire (Mohammed and Bhola 2019; Tebeje and Workneh, 2017; Elsayda et al. 2018; Nigatu and Segni 2016).

In the opinion of Esike et al. (2017), perception of having to deal with side-effects prevented contraceptive practice among 50.3% of the respondents while fear of side-effects was responsible for non-use among 36.9% of women in Ghana (Coomson and Manu (2019). However, this was not a strong enough barrier to preventing family planning in Sudan (Abdalla and Ahmmed 2017). Many participants mentioned friends' complaints rather than theirs; knowing women with a bad experience from contraceptive use appears to scare others from it. Besides, women in a Nigerian study report abandoning a particular method to avoid unwanted effects while others would not dire use any modern contraceptive (Durowade et al., .2017; Mohammed and Bhola, 2019).

Knowledge barrier and misconceptions: Inadequate knowledge can affect the perception of positive health behaviour. Kador et al. (2018) posit that high levels of myths and misconceptions impede the use of contraceptives. Lowering misconceptions through proper education is essential to enhance the uptake of modern contraceptives. Additionally, these myths and misconceptions about contraceptives impact partner approval to use a method. (Berta et al. 2018 Dona et al., 2018). They also appear to be enshrined in the people's culture, while religious beliefs fuel some myths and misconceptions. Unfounded rumours and misconceptions about infertility and malformed babies influence male partners' decisions (Nigatu and Segni 2016; Onifade et al. 2017).

Spousal support/consent: Lack of spousal support/consent is the second most mentioned barrier to contraceptive practice among mothers in literature. Women love to maintain their union and husbands influence this role; Tebeje and Workneh (2017) opined that non-use of contraceptives is due to negative influence from a spouse, older women and those with health challenges were particularly affected. When husbands support their wives' contraceptive choices, it helps women subdue misconceptions and the fear of side-effects (Abdella and Ahammed 2017; Berta et al. 2018).

Once married women lose their decision-making right to their spouse, being custodians of culture, men occasionally wield power not to support their wives' contraceptive choices. Sometimes, the only option available to some mothers is to avoid the practice entirely. As a way around spousal disapproval, some women disguise to take children for immunisation where they take injectables while others leave the marriage (Yidana and Sharif 2018). Without personal empowerment or financial support from their husbands, men control women's thoughts and action as women fear losing their fertility and marriages (Ayanore et al., 2017; Onifade et al., 2017).

Health system barriers: Multiple health system barriers determine the use of contraceptives; prominent among them is the quality of provider service, competence, and skill, availability of a variety of methods and providers for enquiry. Lack of counselling skills, workload, clients' misunderstanding of contraception from health workers all contributes to the problem. Tebeje and Workneh 2017; Ayanore et al. 2017; Durowade et al. 2017) Women who enjoyed integrated service get to know the possible side effects from contraceptive use as well as when and where to seek treatment/support; they tend to be more compliant with a chosen method (Ayanore et al. 2017; Isoquick et al. 2016).

Moreover, the exigency of time, distance, the need for privacy, and confidentiality are factors responsible for the low use of contraceptives identified by Dona et al. (2018). Women seek contraceptive service in a private clinic to maintain their privacy and save time, with an assurance of method availability but return to the public/government hospitals when in need of counselling, or service for complications. Even if location and distance were not a barrier, non-availability of the preferred method, a need for a revisit for women who experience an early return of menses tend to delay early initiation of contraceptives and shorten interpregnancy interval (Jalang' o et al. 2017; Ayanore et al. 2017).

Measures to Improve Contraceptive Usage

Measures to be adopted to deal with contraceptive usage barriers seem not directly researched. There is a paucity of research on views of women on how to increase contraceptive uptake and how they cope with barriers to practice. However, the following groups emerged from the identified barriers. Some terms like factors and opportunities are terms that depict measures that can increase uptake. Mohammed and Bhola (2019) posit that tailoring services to meet mothers' evident needs could improve contraceptive use.

Personal information and Education measure: High uptake of contraceptives was associated with the respondents' educational, marital status and age (Jalango et al. 2017). A study in Ghana points out that women are twice likely to use contraceptives when they benefit from prior education and focused counselling on contraceptives (Ayanore et al. 2017). Early contraceptive education (antenatal, postnatal and involvement of men) supported early uptake of contraceptives. Education alone might not do the magic, this type of education demands orientation and re-orientation of beliefs, attitude and feelings about tradition and proper contraceptive practice, correct misconceptions and increase compliance (Dona et al. 2018; Nigatu and Segni 2016). Onifade et al. (2017) propose method-specific health education with the use of teaching aids to increase uptake, evidence-based health education, as fertility-related matters are sensitive

Family/community measure: There is a relationship between asymmetry in couples' socio-economic and demographic differences and uptake of family planning methods. Ayanore et al. (2017) opined that women who enjoyed spousal support were thrice likely to use contraceptives. Out of pocket spending could serve as a disincentive to contraceptive practice. Women in the low socio-economic group are more inclined to use contraceptives than those in the high social group with the introduction of vouchers and financial support. Improvement in health service and a reminder to clients can increase access to contraceptives. A combination approach helped increase contraceptive uptake, thus addressing financial and behavioural barriers (McConnell et al. 2018).

Health system measure: Health facilities and health professionals appear to be in the best position to address many of the barriers associated with contraceptive uptake in the postpartum period. A Kenyan study confirmed this as postpartum use was associated with lower age, and access to choose a health facility method (Jalang' o et al. 2017). In the same vein, having professionals with adequate skills and knowledge, the right attitude to ensure confidentiality while disseminating timely health education from facilities close to the women will help in no measure to improve contraceptive use (Demie et al. 2018; Ayanore et al. 2017).

Finally, what is yet unconquered is women's fertility desires. Future fertility desires and reasonable satisfaction with the current family size is a significant determinant of contraceptive practice. Though women deferred to partners for confirmation on contraceptive use, those who have attained their fertility goals appear not influenced by spouse's decision. Moreover, it appears that most women are yet to achieve the desired family size (Mohammed-Durosinolorun et al., 2016).

Suggestions

The challenges that confront mothers to contraceptive use in this study are personal information/educational, family/social and health system-related. Therefore providing solutions in this line could enable women to cope better. Creating method-specific education to meet the women's personal information and education needs is one of the strategies identified in addition to improved health system measures to increase use in the immediate postpartum period. The government, policy-making bodies, health personnel and organisations can accomplish the aim by ensuring access, affordability, availability and quality service; this will bring the desired behavioural change among women.

REFERENCES

Abdalla, A. and Ahmmed, E. (2017). 'Evaluate Use and Barriers to Accessing Family Planning Services among Reproductive Age Women in the White Nile, Rural Districts, Sudan', *Health Science Journal*,11(6): 531.

Ahmed, S., Choi, Y., Alzouma, S., Gichangi, P., Guiella, G., Kayembe, P., Kibira, S., Makumbi, F., OlaOlorun, F., Omoluabi, E., Oltupiri, F., Oumarou, S., Seme, A., Shiferaw, S., Anglewicz, P., Radoloff, S. and Tsui, A (2019) 'Trends in contraceptive prevalence rates in sub-Saharan Africa since the 2012 London Summit on Family

Planning: results from repeated cross-sectional surveys', *The Lancet Global Health*, 7(7), PE904-E911

Ayanore, M., Pavlova, M., Groot, W. (2017) 'Context-specific Factors and Contraceptive Use: A Mixed-Method Study among Women, Men and Health Providers in a Rural Ghanaian District. *African Journal of Reproductive Health*. 2017;21(2):81–95. DOI:10.29063/ajrh2017/v21i2.10

Berta, M., Feleke, A., Abate, T., Worku, T., and Gebrecherkos, T. (2018) 'Utilisation and Associated Factors of Modern Contraceptives During Extended Postpartum Period among Women Who Gave Birth in the Last 12 Months in Gondar Town, Northwest Ethiopia', *Ethiopian Journal of health sciences*, 28(2), 207–216. DOI:10.4314/ejhs.v28i2.12

Chola, L., McGee, S., Tugendhaft, A., Buchmann, E. and Hofman, K (2015) 'Scaling Up Family Planning to Reduce Maternal and Child Mortality: The Potential Costs and Benefits of Modern Contraceptive Use in South Africa', *PLoS ONE* 10(6): e0130077. DOI:10.1371/journal.pone.0130077

Coomson J and Manu, A (2019) 'Determinants of modern contraceptive use among postpartum women in two health facilities in urban Ghana: a cross-sectional study', *Contraception and Reproductive Medicine*, 4(17)

Demie, T., Demissew, T., Huluka, T., Workineh, F., Libanos, H (2018) 'Postpartum Family Planning Utilization among Postpartum Women in Public Health Institutions of Debre Berhan Town, Ethiopia', *Journal of Women's Health Care* 7: 426. DOI:10.4172/2167-0420.1000426

Dev, R., Kohler, P., Feder, M. Unger, J Woods, N and Drake, A (2019) 'A systematic review and meta-analysis of postpartum contraceptive use among women in low- and middle-income countries', Reproductive Health 16, 154

Dona, A., Abera, M., Alemu, T., and Hawaria, D (2018). 'Timely initiation of postpartum contraceptive utilisation and associated factors among women of childbearing age in Aroressa District, Southern Ethiopia: A community-based cross-sectional study', *BMC Public Health*, *18* (1), 1100.

Durowade K., Omokanye, L., Elegbede, O., Adetokunbo, S., Olomofe, C., Ajiboye, A., Adeniyi, M., Sanni, T (2017) 'Barriers to Contraceptive Uptake among Women of Reproductive Age in a Semi-Urban Community of Ekiti State, Southwest Nigeria', *Ethiopian Journal of Health Science*, 27(1):121.

Elsayda, H., Dr Mirfat, M and Dr Esraa, M (2018) 'Factors Influencing Utilisation of contraception among Women in Port Said City', *Journal of Nursing and Health Science* (IOSR-JNHS); 7(5) PP 53-63

Esike, C., Anozie, O., Ani, M., Ekwedigwe, K., Onyebuchi, A. and Ezeonu P. (2017) 'Barriers to family planning acceptance in Abakaliki, Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, 34:212-7

Federal Ministry of Health (2014) Nigeria Family Planning Blueprint (Scale-Up Plan) [Online] Available at https://www.healthpolicyproject.com/ns/docs/CIP_Nigeria.pdf

Kahsay, Z., Tegegne, D., Mohammed, E., and Kiros, G (2018). 'Application of individual behavioural models to predict willingness to use modern contraceptives among pastoralist women in Afar region, Northern Ethiopia', *PLoS ONE* 13(5): e0197366.

McConnell M, Rothschild, C., Ettenger, A., Muigai, F and Jessica Cohen, J (2018) 'Free contraception and behavioural nudges in the postpartum period: evidence from a randomised control trial in Nairobi, Kenya. *BMJ Global Health*; 3:e000888.

Mohammed, A and Bhola, K (2019) 'Challenges and prospects of contraceptives use among women attending family planning services in Yobe State, Nigeria', *World Scientific News, 122, 122-132*

Mohammed-Durosinlorun, A., Idris, Z., Adze, J., Bature, S., Mohammed, C., Taingson, M., Abubakar, A., Avidime, S., Airede, L and Onwuafua, P. (2016) 'A quantitative survey on potential barriers to the use of modern contraception among married women of high parity attending an antenatal clinic in Kaduna, Northern Nigeria', *Archives of Medicine and Surgery*;1:30-4

Mohsen, M., El-Abbassy, A and Khalifa, A (2016) 'Effect of application of a Health Belief Model on changing mothers' beliefs regarding birth spacing in rural areas', *Clinical Nursing Studies*, 4(3), DOI: 10.5430/cns. v4n3p54

Nigatu, D., and Segni M (2016) 'Barriers to Contraceptive Use Among Child-Bearing Women in Ambo Town, West Shewa Zone, Oromia. Regional State, Ethiopia', *Gynecology Obstetrics (Sunnyvale)* 6: 352. DOI:10.4172/2161-0932.1000352

Onifade, O., Ogungboye, O Adigun, J., Abikoye, A., Abiola O., and Aliyu, S (2017). 'Socio-Cultural Factors Influencing Choice of Bilateral Tubal Ligation Among Women Attending University of Ilorin Teaching Hospital', *KIU Journal of Social Sciences,* ISSN: 1996902-3; 3(1): 37-46

Radoloff, S. and Tsui, A (2019). 'Trends in contraceptive prevalence rates in sub-Saharan Africa since the 2012 London Summit on Family Planning: results from repeated cross-sectional surveys', *The Lancet Global Health*, 7(7), PE904-E911

Rahmati-Najarkolaei, F., Tavafian, S., Gholami, M., and Jafari, M (2015) 'Factors predicting nutrition and physical activity behaviours due to cardiovascular disease in Tehran University students*: Application of Health Belief Model,' Iranian Red Crescent Medical Journal, 17*(3), e18879. DOI:10.5812/ircmj.18879

Rakhshanderou, S., Ghaffari, M and Rafie, M. (2017) 'Application of health belief model to survey determinants of osteoporosis-related preventive behaviours among Iranian adolescents; *Annals of Tropical Medicine and Public Health*; 10(4), DOI:10.4103/ATMPH.ATMPH_244_17

Rosenstock, I (1974) '*Historical Origins of the Health Belief Model', Health Education Monographs Winter* 1974 329. heb.sagepub.com

Tebeje, B and Workneh, D. (2017). 'Prevalence, Perceptions and Factors Contributing to Long-Acting Reversible Contraception Use among Family Planning Clients, Jimma Town, Oromiya Region, South-West Ethiopia. *Journal of Women's Health Care* 6: 351. DOI: 10.4172/2167-0420.1000351

Tsui, A., Brown, W., and Li, Q. (2017) 'Contraceptive Practice in Sub-Saharan Africa', *Population and development review*, *43*(1), 166–191.

United Nations Population Fund (UNPFA) (2018) Mid-Term Evaluation of the UNFPA Supplies Programme (2013-2016): Nigeria Country Case Study, Evaluation. [Online] Available from: http://www.unfpa.org/evaluation

United Nations, Department of Economic and Social Affairs, Population Division (2015). *Trends in Contraceptive Use Worldwide* 2015 (ST/ESA/SER.A/349). [Online] Available from: https://www.un.org/en/development/desa/population/publications/pdf/family/trendsContraceptiveUse2015Report.pdf

World Health Organization (2018) Family Planning Evidence Brief – *Accelerating uptake of voluntary, rights-based family planning in developing countries*: WHO/RHR/17.07 Rev.1

World Health Organization (2019) *Trends in Maternal Mortality 2000 to 2017 Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division', Department of Reproductive Health and Research* Available at www.who.int/reproductivehealth/publications/maternal-mortality-2017/en/.

Yidana, A and Sharif, A (2018) 'Family Planning Use Among Women Attending a Health Care Facility in Rural Ghana", *Central African Journal of Public Health,* 4(4), pp. 119-124. DOI: 10.11648/j.cajph.20180404.14

APPENDIX

Flow chart of search and review articles

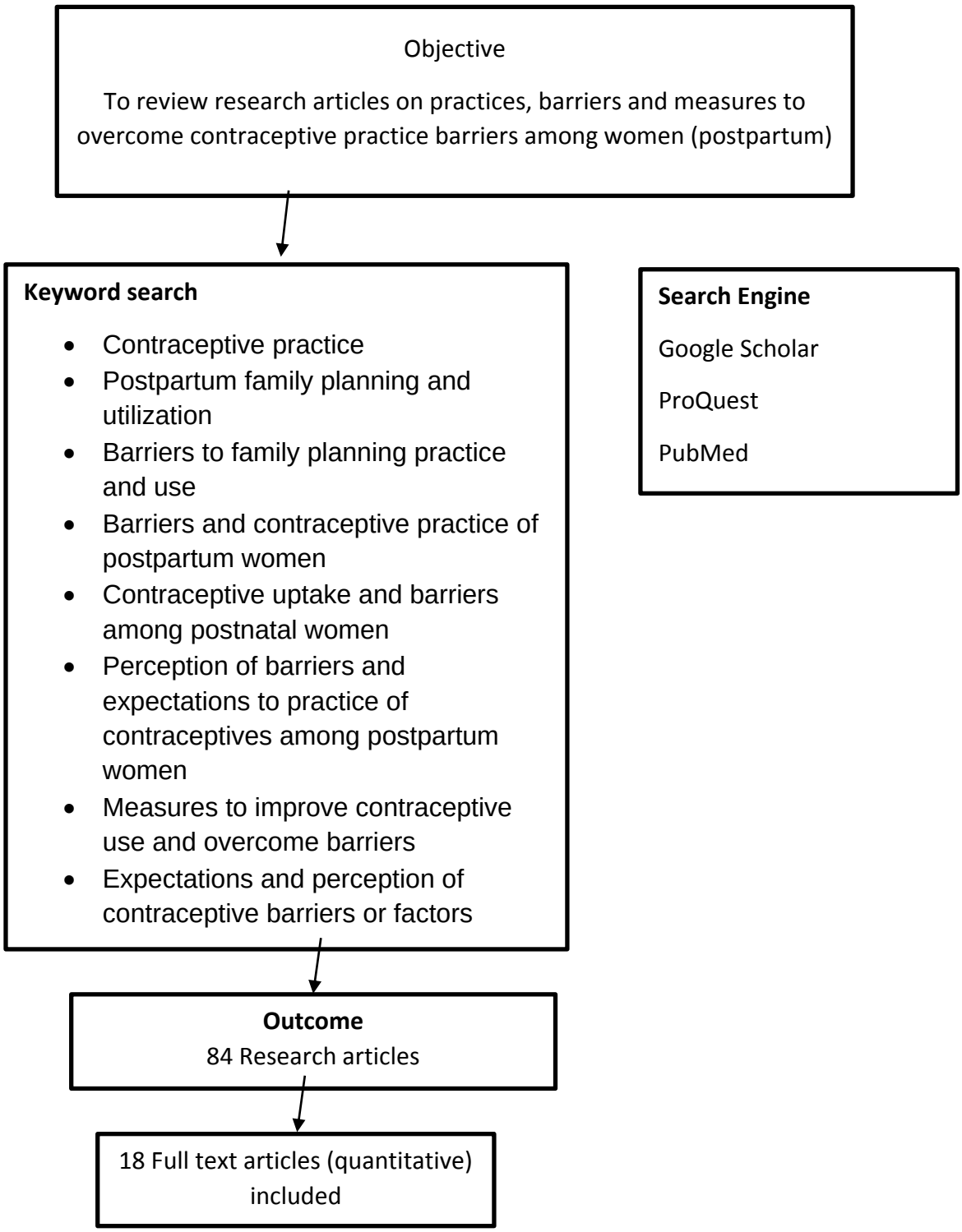

Figure 2: Flow chart of search of reviewed articles

Table 1: Showing Reviewed Articles

S/N	AUTHOR	TITTLE	OBJECTIVE	Sampling Method (SM), Sampling Size (SS), Data Source (DS)	FINDINGS	Remark/GAP
1	Mohammed-Durosinlorun et al. (2016)	A quantitative survey on potential barriers to the use of modern contraception among married women of high parity attending an antenatal clinic in Kaduna, Northern Nigeria	To understand barriers to the uptake of contraception	SS: 400 DS: Cross-sectional survey SM: Descriptive cross-sectional, cluster sampling Descriptive and Chi-Square	A high rate of unplanned pregnancy and the desire for children. The challenge of not being able to observe religious rite meant more than the loss of children. Observed selective response to questions noted. Fear of side effects and the experience of side-effects main problems are irregular bleeding. Fear of side effects is a significant barrier though had preferred method available	The high fertility did not mean high number of children for these women. The barriers did not appear as strong as the desire for more children. How to assess reasons for the remaining 44.8% who have never used a method?
2	Jalang' o et al. (2017)	Determinants of contraceptive use among postpartum women in a county hospital in rural KENYA	To establish the determinants of contraceptive uptake among postpartum women in a	SS;365 DS: Mixed method SM: Random sampling Chi-square	High uptake of FP observed at one year postpartum. Associated factors include marital status, higher education level, younger age, being employed and	Public health campaigns focusing on women with low levels of education should be the aim, focus on LARC, Policymakers need o to collaborate with providers

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			county referral hospital in rural Kenya		getting contraceptives at the clinic. The primary need is within the one year postpartum is the need for prevention.	Further research into reasons why uptake of long-term contraceptive methods is low among postpartum women.
3	Durowade et al. (2017)	Barriers to Contraceptive Uptake among Women of Reproductive Age in a Semi-Urban Community of Ekiti State, Southwest Nigeria	To determine the barriers to use of contraceptives among reproductive women in Ekiti, Southwest Nigeria	SS:503 DS: Questionnaire SM: Cross section: Multistage sampling SPSS: Chi-Square	Barriers: Desire for children, partner disapproval, and fear of side-effects. Marital status educational level and religion affected contraceptive use, with traditional worshippers having the least uptake	There is a need to find why women do not use contraceptives despite no barrier.
4	Esike et al. (2017)	Barriers to family planning acceptance in Abakaliki, Nigeria	To find the reason for low uptake of family planning and services	SS:354 DS: Cross-sectional survey Questionnaire SM: Simple random Numbers & Percentages	The result showed that more than half had fears about side effects. Followed by whose husbands objected to their using family planning	Perception of the women influence to non-practice. Those concerns of women that are related to side effects and health concerns of family planning methods require attention through appropriate education Information Gap

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5	Abdalla and Ahmmed (2017)	Evaluate Use and Barriers to Accessing Family Planning Services among Age Women in the White Nile, Rural Districts, Sudan	To identify the level of utilisation of family planning and services	SS: 200 DS: Cross-sectional survey, Questionnaire SM: Multistage sampling Multivariate analyses	Practice family planning with EBF. Contraceptive use is high though over half reported inadequate support, refusal by the husband. Non-users reported that religious beliefs would hinder their use of methods. There was a relationship between availability, religious beliefs and refusals by husband and methods use. Contraceptive use is associated with the level of education	Reported barriers appear not strong enough to prevent use. How were they able to overcome the barriers, reason might be from the association of education with use? Find how media affect the practice
6	Kador et al. (2018)	Barriers to acceptance of postpartum family planning among women in Montserrado County, Liberia	To investigate the barriers to acceptance of PPFP use among women in Montserrado County,	SS: 378 DS: Cross-sectional Questionnaire SM: Multistage sampling Binary logistic regression	Current use was deficient 11.9%. Fear of side effects and the postpartum abstinence, lack of access and awareness of PPFP, including myths and	Need to correct knowledge barriers, cultural norms, myths and misconception. Encourage PNC attendance. Gap: Explore health system barrier like structure, waiting time, out-of-stock syndrome

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					misconception, were barriers. Being 6moths or less postpartum were less likely to use PPFP, use increases with a child age	
7	Onifade et al. (2017)	Socio-Cultural Factors Influencing Choice of Bilateral Tubal Ligation Among Women Attending University of Ilorin Teaching Hospital Nigeria	To examine socio-cultural factors influencing choice of bilateral tubal ligation among women attending the University of Ilorin Teaching Hospital.	SS: 300 DS: Cross-sectional Questionnaire SM: Multistage sampling Pearson's correlation	Religious belief significantly influenced their choice of bilateral tubal ligation as a family planning method. Over 60% will not do tubal ligation due to the influence of friends About 84% fear for the future outcome.	Health education on method and religious re-orientation needed. Gap Investigate informational and religious barriers
8	Tebeje and Workneh (2017)	Prevalence, Perceptions and Factors Contributing to Long-Acting Reversible Contraception Use among Family Planning Clients,	To assess the prevalence, clients and providers' perceptions, reasons and factors contributing to	SS: 422 DS: Cross-sectional mixed method SM: Systematic ANL: Regression	Husbands' disapproval, fear of side effects and fear of procedure are the challenges. Based on the qualitative study findings, clients perceived, side effects, rumours, partner influence, and lack of	Study centring on increasing knowledge and correcting misinformation

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		Jimma Town, Oromiya Region, South-West Ethiopia	long-acting and reversible contraceptive use, among family planning clients of		women's decision-making power were the primary reasons hindering the use of LARC	
9	Dr, Elsayda et al. 2018	Factors Influencing Utilisation of contraception among Women in Port Said City Egypt	To assess factors influencing utilisation of contraception among women in Port said City	SS: 600 DS: Cross-sectional descriptive SM: random Chi-Square	Choice of contraception based on knowledge with spousal support. 34.6% stopped use due to side-effect. Choose the method according to their desire and with their husband support. More than one-third influenced by associates or friends and family member or relatives. Side-effects, method failure, cognitive barriers as well as the desire for conception were the most common reasons for discontinuation of contraceptives.	The high expectation about method truncated due to side effects and desire for future pregnancy. Few receive information from medical personnel, cognitive barrier observed in the study.

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10	Demie et al. 2018	Postpartum Family Planning Utilization among Postpartum Women in Public Health Institutions of Debre Berhan Town, Ethiopia	to assess family planning use among postpartum women and factors associated with it in public health institutions of Debre Berhan town	SS: 248 DS: cross-sectional quantitative SM: Random Regression	About 42% were current users of contraceptives with injectables most frequently used. More than half do not use contraceptives because they do not deem it necessary. Time of resumption of sexual activity, menstruation was statistically significant.	Women in the study seem not to consider the risk of early pregnancy. Need for early postpartum education. Considering the resumption of sexual activity, low short-acting contraceptive use
11	Berta et al. 2018	Utilisation and Associated Factors of Modern Contraceptives During Extended Postpartum Period among Women Who Gave Birth in the Last 12 Months in Gondar Town, Northwest Ethiopia	to assess utilisation and associated factors of modern contraceptives during extended postpartum period.	SS: 404 DS: Cross-Sectional SM: Systematic random Regression	Postpartum contraceptive utilisation close to average. Most subjects were using short-acting methods. Use of contraceptive influenced by factors such as menses returning after birth, resumption of sex, 6–12 months of the	Mention barriers signify the need to increase education and awareness and counselling of spouse. Integrating maternal care services could also help to improve uptake

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					postpartum period, husband approval of contraceptive and current on knowledge contraceptive use.	
12	McConnell et al. 2018	Free contraception and behavioural nudges in the postpartum period: evidence from a randomised control trial in Nairobi, Kenya	to test whether incorporating simple, low-cost nudges to traditional reproductive health voucher programme in low-income countries can increase their effectiveness by targeting behavioural barriers to utilisation at the same time as financial constraints.	Randomised Controlled trial experimental study of 685 women	58% of participants who received both vouchers and SMS reminders received a method of contraception While 32% of the control group had come for modern contraceptive in the short-term follow-up period	A combination approach: free voucher and SMS reminder helped to increase contraceptive uptake. Addressing financial and behavioural barrier. Gap: study multiple barriers to uptake

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13	Ayanore et al. 2017	Context-specific Factors and Contraceptive Use: A Mixed-Method study among Women, Men and Health Providers in a Rural Ghanaian District	To outline context-specific factors associated with contraceptive use, access on-demand and future use intentions among women in one district of Ghana.	SS: 720 DS: Mixed method SM: purposive sampling Regression	Women who had the support of their partners were more likely to use contraceptives. Access and convenient timing of family planning clinic also determined the use of a method. Fear of the healthcare provider and poor attitude discourage young women from practising family planning. An equal number of men and were in support and against the practice by their wives	Method abandonment was common. There is a need to integrate men for more support to their spouses. In the same vein, health worker attitude and disposition towards the clients can favourably increase use. Having adequate knowledge is not enough to influence uptake pf contraceptives. Gap: Need to research how to protect and support users for improved uptake.
14	Dona et al. 2018	Timely initiation of postpartum contraceptive utilisation and associated factors among women of	to assess the magnitude and associated factors of timely initiation of postpartum contraceptive	SS: 695 DS: Cross-sectional survey SM: Random sampling Regression	Barriers to timely initiation of postpartum contraceptives include distance to facility, husband's approval, non-availability of the preferred method.	Multiple factors inhibit the early initiation of postpartum contraception. Healthcare provider, spouse and location of the facility contribute to this. Once the midwife can successfully educate the

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		childbearing age in Aroressa District, Southern Ethiopia: a community-based cross-sectional study	utilisation among women of childbearing age		Antenatal and postnatal clinic attendees were 1.94 and 1.91 times more likely to initiate contraception on time; women who experienced an early return of menses tend to use contraceptives early as well.	woman during the antenatal and postnatal visit, early initiation of contraception will be high. Getting the consent of spouse will also depend on the level of knowledge of the woman. Gap: Study factors related to the health system and providers
15	Nigatu and Segni (2016)	Barriers to Contraceptive Use Among Child-Bearing Women in Ambo Town, West Shewa Zone, Oromia Regional State, Ethiopia	to determine the barriers of contraceptive use among childbearing women living in Ambo town	SS: 348 SM: Systematic Regression	42% use a method; injectables are most common. Complaint of side-effect, fear, religious and cultural influence and desire for children Most husbands support while those who do not support also do not approve.	Contraceptive utilisation predicated by religion, marital status, woman and husband's educational level. Over two-third enjoy spousal support, why only 42 use a method? Need to investigate the view of men and barriers to contraceptive use between men and women.

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16	Yidana and Sharif (2018)	Family Planning Use Among Women Attending a Health Care Facility in Rural Ghana	to assess the use of family planning among women attending a health facility in Ghana	SS: 344 DS: Descriptive cross-sectional SM: Random sampling	Wrong provider attitude religion, cost, cultural factors as well as physical access to facility prevented the use of contraceptives 67% of husbands supported contraceptive use	Why do these barriers persist despite husband approval? The perception of peers influences many. Need to address significant others to improve practice among women.
17	Mohammed and Bhola (2019)	Challenges and prospects of contraceptives use among women attending family planning services in Yobe State, Nigeria	examine the challenges hindered the use of contraceptives and ascertaining the prospects and solutions for Improving Levels of Contraceptive among Women Attending Family Planning in Potiskum General Hospital, Yobe State.	SS: 100 Descriptive cross-sectional SM: Random sampling Descriptive statistics	Withdrawal, oral pill and condom are the most commonly used method. Religion and culture are the main barriers, fear of risk, lack of agreement among the couple. Measures like the use of charts, symbols, equipping family planning centres and opportunity for counselling can improve contraceptive use	This study has revealed the invaluable nature of contraceptive counselling by the use of charts and explicit language. The burden of education can reduce when religious and cultural leaders can participate in education. Education gap revealed here

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18	Coomson J and Manu, A (2019)	Determinants of modern contraceptive use among postpartum women in two health facilities in urban Ghana: a cross-sectional study	To determine the prevalence and determinants of modern contraceptive use among postpartum women in the Tema Metropolis, Ghana	SS: 320 DS: Cross-sectional survey SM: Random Sampling Chi-square and multiple logistic regressions	Use rate of 26.3%. 53.3%; 177 never used a method, common method is injectables. Fear of side-effect responsible for non-use. Spousal objection has not resumed sexual activity reported as the reason for non-use. Age ass with use The use of modern contraceptive in the past, return of menstruation (4.3 times), resumption of sexual activity (4.7) and discussion of family planning among spouses (31%) were significantly associated with current use of a method. Counselling related to use. Mothers who had used a method in the past were more likely to be current users.	Subjects were attendees at a health facility, yet just above a quarter are contraceptive users. Increased used noted to be associated with previous use, approval of spouse and counselling from a health professional. Gap: Role of health professionals in contraceptive education